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09/832,249	04/10/2001	Yu-Ro Lee	A34198	9472

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BAKER & BOTTS
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
MERED, HABTE	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/832,249	LEE ET AL.	
	Examiner	Art Unit	
	Habte Mered	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 10 April 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/12/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:

On Page 3, Paragraph 18, "type I/II" should be replaced by "type II/III".

On Page 4, Paragraph 23, label Uu is used but not found in any of the figures in the application.

On Page 4, Paragraph 23, in regards to the discussion on Figure 3, labels Iu, Iur and Iub are in consistent with the corresponding labels Iu, Iur, Iub in Figure 3.

On Page 7, 1st line, need to remove the word "increasing".

On Page 7, Paragraph 38, the phrase "which treats a general user part of the MAC layer through a logical channel" is not clear and can be misleading. Suggest replacing the phrase with "which treats the control and general user part of a protocol unit transmitted from the RLC layer to the MAC layer via a logical channel".

On Page 8, Paragraph 38, 1st line and Page 9, Paragraph 40 the phrase "which treats a common/shared part on the MAC layer of the CRNC" is not clear and

can be misleading. Suggest replacing it with the phrase "a common/shared part of the MAC layer of the CRNC".

Page 12, Paragraph 61, replace Fig. 5 with Figs. 5a & 5b.

Page 16, Paragraph 83, and replace the word "transmits" with "transmit".

Page 17, the acronyms PDSCH, TFI, and TFCI need to be expanded and adequately explained.

Page 17, Paragraph 89, the first two sentences need to be re-written in order to clarify the relationship between HARQ-RLC-Control PDU, TFI1 and TFI2. It is not clear whether TFI1 is or is not stored in the buffer based on the second sentence.

Page 18, Paragraph 90, it is not at all clear how the data identifier is obtained without processing the HARQ-RLC-Control-PDU, and the data identifier is not adequately defined.

Page 19, Paragraph 96, the phrase "which is a different channel from the HARQ-RLC-Control-PDU" is incoherent. Consider replacing with a phrase like "which is a different channel from that of the DCCH used to transport the HARQ-RLC-Control-PDU".

Page 21, Paragraph 105, need to replace TFL1 with TFI1.

Page 27, Paragraph 132, last sentence, it is not clear whether MAC-PDU refers to MAC-PDU a or MAC-PDU b.

Page 29, Paragraph 144, replace phrase "firstly checks" with "checks first".

Paragraph 144 needs to be re-written as it is logically incoherent.

Page 30, the discussion on the advantages described in paragraphs 146 and 147 is misleading, as the advantages described are inherent to the inter-working of the Radio Interface Protocol, which is widely publicized by the standard bodies.

There is no discussion of the label "Connectivity Indicator" used in Figure 10 in the detailed description of Figure 10 in the specification document.

Appropriate correction is required.

Claim Objections

3. Claim 1 is objected to because of the following informalities: In limitation b)

Replace the phrase "treating a general user part of a MAC layer through a logical channel" with

"which treats a protocol data unit transmitted from the RLC layer to the MAC layer via a logical channel".

Further add the phrase "via a logical channel" in limitation b) right after the word HARQ-RLC-Control-PDU.

Claim 5, limitation f2, HARC-ROC-Control-PDU should be replaced with HARQ-RLC-Control-PDU.

Claim 10 is objected to because of the following informalities: "the phrase the RLC-PDU aand the HARQ-RLC-Control-PDU with each PDU" is not clear.

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. **Claims 1-20** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,731,623. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application and that of the patent describe and define the same invention.

After reviewing the claims of the application and the Patent in terms of the subject matter and limitations each claim addresses, one will come to the conclusion that all the limitations in the application are merely an obvious variation of the subject matter of the invention in the Patent.

(A) Analysis of the independent claims 1 and 18 of the application

In the independent Patent claims 1and17, the limitations address a data processing method or a wideband radio communication system utilizing a hybrid ARQ

type II/III mechanism. Patent claims 1 and 17 are based on the fact that the user equipment or the mobile station is connected to a Serving Radio Network Controller (SRNC) that also serves as the Controlling Radio Network Controller (CRNC). In other words, the limitations of Patent claims 1 and 17 address the case where the SRNC is the same as the CRNC and is responsible for establishing and allocating resources for the data call on the same radio network as shown in the Patent's Figure 5A and application's Figure 5A. Limitations (a) to (e) in Patent claims 1 and 17 address how a control Protocol Data Unit (PDU) is created from a user PDU at the RLC layer of the transmitter and transmitted to the user equipment after going through the MAC and Physical Layers of the transmitter.

In the independent claims 1and 18 of the Application, the User Equipment is connected to a SRNC mainly for resource allocation and uses a different CRNC on another radio network as shown in Figure 5B of both the Patent and the application. However, the limitations (a) to (e) have the same scope and content as that of the Patent's claims 1 and 17 and deal with creating a control PDU for every user PDU at the transmitter's RLC Layer and eventually transmitting it to the user equipment.

The difference between the inventions defined by claims 1 and 17 of the Patent and claims 1 and 18 of the application is strictly dependent on how many Radio Network Controllers are used in setting up the call. For a person of ordinary skill in the art it is basic knowledge that in a WCDMA system RNCs can have different roles in setting up a

call and further data and voice calls can involve different radio networks. The standard bodies like the 3GPP have previously defined the data flow over different protocol layers for the Radio Protocol Interface when the call involves a single radio network where the CRNC and SRNC are the same as well as when the call involves different radio networks where the SRNC is different from the CRNC for the end user involved. Hence claims 1 and 18 of the application are an obvious variation of the invention addressed in claims 1 and 17 of the Patent. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(B) Analysis of dependent claims 2 and 3 of the application

Limitations (d) and (e) of Patent claim 1 address the need to transform the RLC-PDU and HARQ –RLC-Control-PDU generated at the RLC layer into MAC PDUs at the MAC layer format before sending them to the MAC layer and at the MAC layer it requires a transport format combination indicator be generated for each of the PDUs that need to be sent to the Physical layer and eventually sent to the mobile station via radio frames. The transport format indicators are created at the MAC-c/sh sub-layer and transmitted by the MAC-d sub-layer to the Physical layer using transport channels.

Claims 2 and 3 of the application address the need to transform the RLC-PDU and HARQ-RLC-Control PDU into MAC PDUs before transmitting it to the Physical Layer. These MAC PDUs are transmitted from the MAC layerto the Physical layer with

transport format indicators for each MAC PDU before eventually sending it to the mobile station in radio frame format.

The difference between limitations (d) and (e) of Patent claim1 and the claims 2 and 3 of the application is in the details of where the transport format indicators are created and how they are sent to the Physical Layer. Claims 2and 3 of the application do not specify in particular what entity of the MAC layer is responsible for generating the transport format indicators while the Patent clearly states the MAC-c/sh as the responsible entity for generating the indicators and the MAC-d for transmitting it to the Physical Layer. Clearly, claims 2 and 3 of the application are a subset of limitations (d) and (e) of Patent claim 1. Further, for a person of ordinary skill in the art familiar with the Radio Interface Protocol, established and published by standard bodies like the 3GPP, the protocol is flexible enough to allow transmission of control and user data either separately or jointly depending on the call configuration. In the case of the Patent, since the call is on the same radio network the MAC layer can support sending control information from Mac-d (such as transport format indicator) separately using a dedicated transport channel (DCH) and sending user data from MAC-c/sh form a common transport channel – downlink shared channel (DSCH). The application on the other hand has a call configuration that makes use of MAC-d of SRNC and MAC-c/sh of CRNC and has to send control and user data together via the DSCH. It is clear that the difference in the limitations between the Patent and the application is the call configuration. Hence claims 2 and 3 of the application are an obvious variation of the

invention addressed in limitation (d) and (e) of claim of the Patent. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(C) Analysis of dependent claims 4 and 19 of the application

In the dependent Patent claims 5 and 18, the limitations address the steps the receiver uses in analyzing the user data PDU (RLC-PDU) before sending an acknowledgement to the transmitter. The data PDU is interpreted before sending it to a higher layer.

In the dependent claims 4 and 19 of the application, the limitations address how a receiver analyzes a received user data PDU (RLC-PDU). The data PDU is decoded before it is sent to a higher layer.

The difference between Patent claims 5 and 18 and claims 4 and 19 of the application is that in the case of the Patent the PDU is interpreted while in the case of the application the PDU is decoded before it is sent to a higher layer. For a person of ordinary skill in the art in order to interpret a PDU at a receiver in a WCDMA data transmission system the PDU has to be decoded. Hence claims 4 and 19 of the application are an obvious variation of the invention addressed in Patent claims 5 and 18 respectively. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(D) Analysis of dependent claims 5 and 20 of the application

Patent claims 6 and 19 describe in details how the receiver handles the RLC-PDU and the HARQ-Control-PDU from the time it stores it in the layer 1 buffer till it sends an acknowledgment to the transmitter.

Claims 5 and 20 of the application addresses how the receiver handles the RLC-PDU and the HARQ-Control-PDU at each protocol layer till it sends an acknowledgment to the transmitter.

The difference between Patent claims 6 and 19 and claims 5 and 20 of the application is that the Patent claims state explicitly that transport format combination indicator (TFCI) while the application claims 5 and 20 do not. For a person of ordinary skill in the art who should be familiar with the radio Interface Protocol Stack of a user equipment all data transmitted from the Physical Layer to the MAC layer goes through first the MAC-c/sh entity then through the MAC-d entity onto the RLC layer. Hence claims 5 and 20 of the application are an obvious variation of the invention addressed in Patent claims 6 and 19. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(E) Analysis of dependent claims 6 and 7

Patent claims 7 and 8 discuss where on the user equipment side the sequence number, version number, and data identifier are extracted at the RLC layer and sent to the RRC and then sent back to the Physical layer of the user equipment.

Claims 6 and 7 of the application discuss where on the mobile station side the sequence number, version number, and data identifier are extracted at the RLC layer and sent to the RRC and then sent back to the Physical layer of the mobile station.

The difference between Patent claims 7 and 8 and claims 6 and 7 of the application is that one uses mobile station and the other uses user equipment. For a person of ordinary skill in the art, in WCDMA discussions, the terms mobile stations and user equipments are interchangeable terms. Hence claims 6 and 7 of the application are an obvious variation of the invention addressed in Patent claims 7 and 8. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(F) Analysis of dependent claim 8

Patent claim 9 describes how the RLC-PDU and the HARQ-RLC-Control-PDU are handled at the MAC layer and how the transport format indicators allotted and eventually transmitted to the user equipment. Also shows how relation identifier allows the MAC layer to handle related RLC-PDU and HARQ-RLC-Control-PDU.

Claim 8 of application describes how the RLC-PDU and the HARQ-RLC-Control-PDU get handled by the MAC layer and how the transport format indicators are associated with each PDU.

The difference between Patent claim 9 and that of the application is that every limitation of the application in the Patent claim but the Patent claim contains in addition limitation for handling cases relation identifiers are received. Also Patent claim 9

indicates the transport format indicators pass through MAC-d as control information which is a consequence of the call configuration as described in the analysis for claims 1, 2, 3, and 18 of the application as indicated earlier. Hence claim 8 of the application is an obvious variation of the invention addressed in Patent claim 9. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(G) Analysis of dependent claim 9

Patent claim 10 addresses how the transmitter sends transport format indicator to the first physical channel via MAC-d and RLC-PDU and HARQ-RLC-Control-PDU to the second physical channel and eventually send every thing to the user equipment as a radio frame.

Claim 9 of the application addresses how a transmitter sends in the downlink direction a radio frame to the user equipment comprising of the transport format indicators, RLC-PDU, and HARQ-RLC-Control-PDU.

The difference between Patent claim 10 and claim 9 of the application is that the former distinguishes different physical channels for sending control and data information. However, for a person of ordinary skill in the art and familiar with the Radio Interface Protocol stack it has been already established that as part of the prior art there are different Physical channels for transmitting user data and control data separately. Hence claim 9 of the application is an obvious variation of the invention addressed in Patent claim 10. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(H) Analysis of claim 10 of the application

Patent claim 2 addresses the relation indicator created at the RLC layer.

Claim 10 of the application addresses the relation indicator created at the SRNC's RLC layer.

The difference between Patent claim 2 and claim 10 of the application is the RLC layer used to create the relation indicator. The RLC layer has to be of that of the SRNC for claim 10 of the application due to the call configuration discussed earlier as part of the independent claims (See analysis A and B). Hence claim 9 of the application is an obvious variation of the invention addressed in Patent claim 10. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(I) Analysis of claim 11 of the application

Patent claim 3 defines the relation indicator.

Claim 11 of the application defines the relation indicator in WCDMA system in the downlink direction.

The only difference between Patent claim 3 and claim 11 of the application is that the Patent claim 3 reiterates the limitation to be valid in WCDMA downlink environment which is redundant as both the Patent and application describe WCDMA downlink data transmission system. Hence claim 11 of the application is an obvious variation of the invention addressed in Patent claim 3. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(J) Analysis of claim 12 of the application

Patent claim 4 defines the use of the relation indicator at the MAC layer of the transmitter.

Claim 12 of the application defines the use of the relation indicator at the MAC layer of the transmitter.

The difference between Patent claim 4 and claim 12 of the application is that the MAC-c/sh and MAC-d belong to the same RNC in the former case and to different RNCs in the latter case, which is a consequence of the call configuration. (See analysis A and B). Hence claim 12 of the application is an obvious variation of the invention addressed in Patent claim 4. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(K) Analysis of claim 13 of the application

Patent claim 11 and claim 13 of the application are identical, word for word, and have no difference in subject matter or scope. Hence claim 13 of the application is an obvious variation of the invention addressed in Patent claim 11. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(L) Analysis of claim 14 of the application

Patent claim 12 and claim 14 of the application are identical, word for word, and have no difference in subject matter or scope. Hence claim 14 of the application is an obvious variation of the invention addressed in Patent claim 12. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(M) Analysis of claim 15 of the application

Patent claim 13 and claim 15 of the application are identical, word for word, and have no difference in subject matter or scope. Hence claim 15 of the application is an

obvious variation of the invention addressed in Patent claim 13. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(N) Analysis of claim 16 of the application

Patent claims 14 and 15 address what type of data is transmitted through the PDSCH and the DPCH.

Claim 16 of the application also addresses what type of data is transmitted through the PDSCH and DPCH.

The difference is that the Patent claims 14 and 15 generalize the data going through the DPCH and puts it as TFCI while claim 16 of the application breaks it into TFI1 and TFI2. This does not change the fact that TFI1 and TFI2 are specific TFCIs.

Hence claim 16 of the application is an obvious variation of the invention addressed in Patent claims 14 and 15. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

(O) Analysis of claim 17 of the application

Patent claim 16 and claim 17 of the application are identical, word for word, and have no difference in subject matter or scope. Hence claim 17 of the application is an obvious variation of the invention addressed in Patent claim 16. The conclusion of obviousness-type double patenting is made in light of these factual determinations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to Hybrid ARQ method for packet data transmission:

US Patent (6, 658, 005) to Siedel et al

US Patent (6, 363, 058) to Roobol et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HM

RICKY NGO
PRIMARY EXAMINER